

Abstract of the disclosure

An apparatus for regulating the concentration of insulin within the blood of a living organism, wherein said apparatus is comprised of an in vitro cell culture for producing insulin, an in vitro cell culture for producing glucagon, an in vitro cell culture for producing somatostatin, means for measuring the concentration of glucose within the blood of such living organism, means for measuring the concentration of insulin within the blood of such living organism, means for delivering a specified amount of insulin to the blood of such living organism, means for delivering a specified amount of glucagon to the blood of such living organism, means for delivering a specified amount of somatostatin to the blood of such living organism, and means for reducing the amount of insulin within such blood of such living organism.